

**AGREEMENT FOR PROFESSIONAL
ENGINEERING SERVICES
BETWEEN
THE TOWN OF WELLFLEET, MASSACHUSETTS
AND
Bourne Consulting Engineering, P. C.
FOR
WELLFLEET MARINA DREDGING ENGINEERING**

THIS AGREEMENT made this ____ day of August, 2014 between Bourne Consulting Engineering, a Massachusetts professional corporation with a usual place of business at 3 Bent Street, Franklin, MA 02038, hereinafter called the "ENGINEER", and the TOWN OF WELLFLEET, acting by its Board of Selectmen, with a usual place of business at 300 Main Street, Wellfleet, MA 02667, hereinafter called the "TOWN".

The ENGINEER and the TOWN, for the consideration hereinafter named, agree as follows:

1. Scope of Work

The ENGINEER shall furnish all labor, materials, equipment and insurance to perform all work required for the project known as Wellfleet Marina Dredging Engineering (the "Project"), in accordance with the Scope of Services set forth in the proposal of the Engineer dated July 9, 2014 attached as Attachment A (the "Proposal").

2. Contract Price

The TOWN shall pay the ENGINEER for the performance of this Agreement, subject to any additions and deductions provided for herein, in current funds, the sum of One Hundred Seventy-Two Thousand Three Hundred Twenty (\$172,230.00) Dollars. Said sum does not include payment for construction phase services, which shall be compensated on a time and materials basis at ENGINEER's Standard Billing Rates in effect at the time that the services are performed. The sums payable by the Town to the Engineer shall not exceed for each task the amounts set forth in said Proposal. The payment of any sums in excess of the current appropriation shall be subject to further appropriation.

3. Commencement and Completion of Work

- A. It is agreed that time is of the essence of this Agreement. The ENGINEER shall commence and prosecute the work under this Agreement upon execution hereof and shall perform the work on or before _____, 20__.
- B. Time as Essential Condition: It is understood and agreed that the commencement of and completion of the work are essential conditions of this

Agreement. It is further agreed that time is of the essence for each and every portion of the Agreement wherein a definite and certain length of time is fixed for the performance of any act whatsoever; and where under the Agreement any additional time is allowed for the completion of any work, the new time fixed by such extension shall be of the essence of this Agreement. It is understood and agreed that the times for the completion of the work are reasonable, taking into consideration the average climatic range and usual industrial conditions prevailing in this locality.

- C. Progress and Completion: ENGINEER shall commence work promptly upon execution of this Agreement and shall prosecute and complete the work regularly, diligently and uninterruptedly at such a rate of progress as will insure completion within the stipulated number of calendar days.

4. Performance of the Work

- A. Direction of the Work: The ENGINEER shall supervise and direct the Work, using his best skills and attention, which shall not be less than such state of skill and attention generally rendered by the ENGINEERING/design profession for projects similar to the Project in scope, difficulty and location. The ENGINEER shall be solely responsible for coordinating all portions of the Work under the Agreement.

- B. Responsibility for the Work:

- (1) The ENGINEER shall be responsible to the TOWN for the acts and omissions of his employees, subcontractors and their agents and employees, and other persons performing any of the Work under a contract with the ENGINEER. Consistent with the standard of care referenced in paragraph A. above, the ENGINEER shall be responsible for the professional and technical accuracy and the coordination of all designs, drawings, specifications, estimates and other work or services furnished by him or his consultants and subcontractors. The ENGINEER shall perform his work under this Agreement in such a competent and professional manner that detail checking and reviewing by the TOWN shall not be necessary.
- (2) The ENGINEER shall not employ additional consultants not named in his proposal to the Town, nor sublet, assign or transfer any part of his services or obligations under this Agreement without the prior approval and written consent of the Town. Such written consent shall not in any way relieve the ENGINEER from his responsibility for the professional and technical accuracy and coordination of all data,

designs, drawings, specifications, estimates and other work or services furnished under this Agreement.

- (3) All consultants must be registered and licensed in their respective disciplines if registration and licensure are required under the applicable provisions of Massachusetts law.
- (4) The ENGINEER and all consultants and subcontractors shall conform their work and services to any guidelines, standards and regulations of any governmental authority applicable to the type of work or services covered by this Agreement, including those of the Massachusetts Highway Department and the Department of Environmental Protection.
- (5) The ENGINEER shall not be relieved from his obligations to perform the Work in accordance with the requirements of this Agreement either by the activities or duties of the TOWN in its administration of the Agreement, or by inspections, tests or approvals required or performed by persons other than the ENGINEER.
- (6) Neither the Town's review, approval or acceptance of, nor payment for any of the work or services performed shall be construed to operate as a waiver of any rights under the Agreement or any cause of action arising out of the performance of the Agreement.

C. Deliverables, Ownership of Documents: One (1) reproducible copy of all drawings, plans, specifications and other documents prepared by the ENGINEER shall become the property of the TOWN upon payment in full therefor to the ENGINEER. Ownership of stamped drawings and specifications shall not include the ENGINEER's certification or stamp. Any re-use of such documents without the ENGINEER's written verification of suitability for the specific purpose intended shall be without liability or legal exposure to the ENGINEER or to the ENGINEER's independent professional associates, subcontractors or consultants. Distribution or submission to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as an act in derogation of the ENGINEER's rights under this Agreement.

D. Notices, Compliance With Laws:

- (1) The ENGINEER shall give all notices and comply with all federal, state and local laws, ordinances, rules, regulations and lawful orders of any public authority relating to the performance of the Work. The ENGINEER shall provide the TOWN with reproductions of all permits, licenses and receipts for any fees paid. The TOWN represents that it

has disclosed to the ENGINEER all orders and requirements known to the TOWN of any public authority particular to this Agreement.

- (2) If the ENGINEER observes that any of the TOWN's design schemes, outlines or goals are at variance with applicable laws, statutes, codes and regulations in any respect, he shall promptly notify the TOWN in writing, and any necessary changes shall be accomplished by appropriate modification.
- (3) In the performance of the Work, the ENGINEER shall comply with all applicable federal, state and local laws and regulations, including those relating to workplace and employee safety.

5. Site Information Not Guaranteed; Contractor's Investigation

The TOWN shall furnish to the ENGINEER available surveys, data and documents relating to the area which is the subject of the Scope of Work. All such information, including that relating to subsurface and other conditions, natural phenomena, existing pipes, and other structures is from the best sources at present available to the TOWN. All such information is furnished only for the information and convenience of the ENGINEER and is not guaranteed. It is agreed and understood that the TOWN does not warrant or guarantee that the subsurface or other conditions, natural phenomena, existing pipes, or other structures will be the same as those indicated in the information furnished, and the ENGINEER must satisfy himself as to the correctness of such information. If, in the opinion of the ENGINEER, such information is inadequate, the ENGINEER may request the TOWN's approval to verify such information through the use of consultants or additional exploration. In no case shall the ENGINEER commence such work without the TOWN's prior written consent. Such work shall be compensated as agreed upon by TOWN and ENGINEER.

6. Payments to the Contractor

- A. The TOWN shall make payment to the ENGINEER, monthly, upon approval of the ENGINEER's requisitions therefor. All requisitions shall be in the same proportionate amount of the Contract Price as the proportion of the work completed to the total scope of work.
- B. If there is a material change in the scope of work, the TOWN and the ENGINEER shall mutually agree to an adjustment in the Contract Price. Delay of one year or more by the TOWN plus a significant change in the estimated construction cost will be considered a change in the scope of work.
- C. If the TOWN authorizes the ENGINEER to perform additional services, the ENGINEER shall be compensated in an amount mutually agreed upon, in advance, in writing. Except in the case of an emergency, the ENGINEER shall not

perform any additional services until such compensation has been so established.

7. Reimbursement

Except as otherwise included in the Contract Price or otherwise provided for under this Agreement, the ENGINEER shall be reimbursed by the Town: (a) at 1.1 times the actual cost to the ENGINEER of consultants retained to obtain information pursuant to Article 5 hereof or otherwise. No such reimbursement shall be made unless the rates of compensation have been approved, in advance, by the Town; (b) at 1.0 times the actual cost of additional or specially authorized expense items, as approved by the Town.

8. Final Payment, Effect

The acceptance of final payment by the ENGINEER shall constitute a waiver of all claims by the ENGINEER arising under the Agreement.

9. Terms Required By Law

This Agreement shall be considered to include all terms required to be included in it by the Massachusetts General Laws, and all other laws, as though such terms were set forth in full herein.

10. Indemnification

- A. General Liability: The ENGINEER shall indemnify and hold harmless the TOWN from and against any and all claims, damages, losses, and expenses, including attorney's fees, to the extent arising out of the performance of this Agreement and to the extent the same relate to matters of general commercial liability, when such claims, damages, losses, and expenses are caused, in whole or in part, by the negligent or wrongful acts or omissions of the ENGINEER or his employees, agents, subcontractors or representatives.
- B. Professional Liability: The ENGINEER shall indemnify and hold harmless the TOWN from and against any and all claims, damages, losses, and expenses, including attorney's fees, arising out of the performance of this Agreement and to the extent the same relate to the professional competence of the ENGINEER's services, when such claims, damages, losses, and expenses are caused, in whole or in part, by the negligent acts, negligent errors or omissions of the ENGINEER or his employees, agents, subcontractors or representatives.

11. Insurance

- A. The ENGINEER shall at his own expense obtain and maintain a Professional Liability Insurance policy for errors, omissions or negligent acts arising out of the performance of this Agreement in a minimum amount of \$1,000,000.00.
- B. The coverage shall be in force from the time of the agreement to the date when all construction work for the Project is completed and accepted by the Town. If, however, the policy is a claims made policy, it shall remain in force for a period of six (6) years after completion.

Since this insurance is normally written on a year-to-year basis, the ENGINEER shall notify the TOWN should coverage become unavailable.

- C. The ENGINEER shall, before commencing performance of this Agreement, provide by insurance for the payment of compensation and the furnishing of other benefits in accordance with M.G.L. c.152, as amended, to all its employees and shall continue such insurance in full force and effect during the term of the Agreement.
- D. The ENGINEER shall carry insurance in a sufficient amount to assure the restoration of any plans, drawings, computations, field notes or other similar data relating to the work covered by this Agreement in the event of loss or destruction until the final fee payment is made or all data are turned over to the TOWN.
- E. The ENGINEER shall also maintain public liability insurance, including property damage, bodily injury or death, and personal injury and motor vehicle liability insurance against claims for damages because of bodily injury or death of any person or damage to property.
- F. Certificates and any and all renewals substantiating that required insurance coverage is in effect shall be filed with the Agreement. Any cancellation of insurance, whether by the insurers or by the insured, shall not be valid unless written notice thereof is given by the party proposing cancellation to the other party and to the TOWN at least fifteen days prior to the intended effective date thereof, which date shall be expressed in said notice.
- G. Upon request of the ENGINEER, the TOWN reserves the right to modify any conditions of this Article.

12. Notice

All notices required to be given hereunder shall be in writing and delivered to, or mailed first class to, the parties' respective addresses stated above. In the event that immediate

notice is required, it may be given by telephone or facsimile, but shall, to the extent possible, be followed by notice in writing in the manner set forth above.

13. Termination

- A. Each party shall have the right to terminate this Agreement in the event of a failure of the other party to comply with the terms of the Agreement. Such termination shall be effective upon seven days' notice to the party in default and the failure within that time of said party to cure its default.
- B. The TOWN shall have the right to terminate the Agreement without cause, upon ten (10) days' written notice to the ENGINEER. In the event that the Agreement is terminated pursuant to this subparagraph, the ENGINEER shall be reimbursed in accordance with the Agreement for all work performed up to the termination date.

14. Miscellaneous

- A. Royalties and Patents: The ENGINEER shall pay all applicable royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save the TOWN harmless from loss on account thereof, except that the shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is specified by the Town; but if the ENGINEER believes or has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to the Town, and thereafter the TOWN insists on the use of the design, process or product specified.
- B. Assignment: The ENGINEER shall not assign or transfer any of its rights, duties or obligations under this Agreement without the written approval of the Town.
- C. Governing Law: This Agreement shall be governed by and construed in accordance with the law of the Commonwealth of Massachusetts.

IN WITNESS WHEREOF, the parties hereto have set their hands and seals, the TOWN by its authorized representatives who, however, incur no personal liability by reason of the execution hereof or of anything herein contained, as of the day and year first above written.

ENGINEER:

TOWN:

By: _____

By: _____

Name: _____
Type or Print

Title: _____

Title: _____

ATTACHMENT A

DRAFT



Ronald R. Bourne, P.E. - President

Bourne Consulting Engineering, P.C.

3 Bent Street

July 9, 2014

Franklin, MA 02038

Town of Wellfleet
300 Main Street
Wellfleet, MA 02667

Attn: Mr. Harry S. Terkanian, Town Administrator

RE: Wellfleet Harbor Dredging

(BCE P34-642)

Subj.: Engineering Services – Dredge Material Sampling & Testing and Dredge Permitting

Dear Mr. Terkanian:

We thank you for this opportunity to provide a proposal for engineering services associated with the proposed dredging of Wellfleet Harbor. As per our previous discussions and emails, the next step in the process for permitting the proposed dredging would be to request a pre-application meeting with regulatory agencies and commence sampling and testing.

We have recommended a pre-application meeting early in the process due to the long time period since last dredging of the Town Mooring Basin (Area II in the **BCE** Dredge Feasibility Study). Including this area may increase the scope of required sampling and testing and is likely to attract greater regulatory scrutiny. Understanding regulatory concerns early in the process may help develop a better strategy to meet the Town's goals.

The entire sampling and testing program can be somewhat lengthy and costly but the goal is to have the dredge material approved for offshore disposal prior to proceeding with the submission of formal permit applications.

Typical sampling and testing for offshore disposal proceeds in three stages:

Stage 1 – Gradation and Bulk Chemistry

Stage 2 – Bio Assay Testing

Stage 3 – Bio Accumulation Testing.

At this time, the US Army Corps of Engineers (USACE) has defined the sampling and testing they will require for the first stage of this process. When the results of this first stage are available, the USACE may determine that the biological testing in Stages 2 and 3 is not required but, based on our current understanding, it is likely that biological testing will be required if the project proceeds. Stages 2 and 3 can be completed together but the cost of the lab testing is high and, if the material fails at any stage, the additional testing may be wasted effort. Therefore, we have presented an approach which performs these two stages sequentially.

The complete process for sampling and testing of the dredge material should be completed prior to proceeding with actual regulatory applications. We would anticipate the process would follow the sequence as follows:

1. Request Pre-application Meeting
2. Initiate Stage 1 of the sampling and testing program as per approved Sampling and Testing Plan (attached)
3. Submit Stage 1 test results to the USACE and request determination for further testing and confirm if biological testing will be required
4. Perform biological testing is required – perform in two phases (Stage 2 and Stage 3).
5. The USACE will issue a Suitability Determination after they have all of the testing results that they require. The goal is to have the material approved by the USACE for disposal offshore.
6. Following Suitability Determination, prepare and file the required local, State and Federal permit applications.

We have prepared a scope of work and fee proposal based on this approach which can proceed in steps to suit available funding for the work as follows:

Mr. Harry Terkanian
July 9, 2014
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Assumptions:

This proposal is being submitted based on the following assumptions:

- Past dredging projects for Wellfleet Harbor have used the Cape Cod Bay Disposal Site (CCBDS).
- Dredge limits will be based on the dredge depths and limits as determined by historic Chapter 91 licenses and as set out in the **BCE** Dredge Feasibility Study
- Previous hydrographic survey will be used as basis for dredge footprints and regulatory applications (may require update after 5 years for formal permit applications)
- Preliminary design of dredge footprint as per **BCE** Dredge Feasibility Study
- Project to be consistent with past approvals and would be considered a maintenance dredge project.
- Sampling and testing requirements will be based on USACE Memorandum of March 25, 2014.
- Number of composite samples will be determined by USACE. Budgets assume 2 to 3 samples.
- Municipal exemption for permit fees (Task 3)

Scope of Work

Task 1 - Kick Off Meeting and Pre-Application Meeting

- Hold Kick off meeting with Town representatives to confirm Town goals and schedule
- Request Pre-Application to MEPA office and coordinate with USACE
 - Goal is to obtain input from all key regulatory review agencies including:
 - USACE
 - MA DEP
 - MA Division of Marine Fisheries
 - MA Office of Coastal Zone Management
- Coordinate meeting and prepare minutes for distribution
- Prepare memo for Town with recommendations for permitting approach

Task 2 - Material Sampling and Testing – Costs based on attached proposals

A. Stage 1 Sampling and Testing

- i. Perform required sampling and testing for first level of findings including obtainment of 14 samples as determined by USACE and performance of physical testing to determine compositing:
 - 1. Sampling by TG&B \$ 4,260
 - 2. Physical Testing (grain size) \$ 1,750
- ii. **BCE** to perform review of findings with USACE to confirm number of samples for Bulk Chemistry
- iii. Perform Bulk Chemistry Testing (ESI) in accordance with USACE requirements
 - 1. Assume 7 Composite Samples \$ 6,200
- iv. **BCE** to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 - 1. Budget for engineering services billed time & expenses \$ 2,500

B. Stage 2 Sampling and Testing - Based on Client authorization to proceed

- i. Perform required sampling and testing for first level of biological findings including obtainment of 14 samples as determined by USACE and performance of physical testing to determine compositing:

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1. Sampling by TG&B \$ 5,000
 2. Physical Testing (grain size) \$ 1,750
 - ii. **BCE** to perform review of findings with USACE to confirm number of composite samples for Bio-assay
 - iii. Perform Bio-assay testing (ESI) in accordance with USACE requirements
 1. Disposal site reference sample \$ 2,000
 2. Testing cost for 2 Samples \$ 4,800
 3. Testing cost for 3 Samples \$ 6,825
 - iv. **BCE** to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 1. Budget for engineering services billed time & expenses \$ 2,500
- C. Stage 3 Sampling and Testing - Based on Client authorization to proceed
- i. Perform required sampling and composite as defined in Stage 2 Testing:
 1. Sampling by TG&B \$ 5,000
 - ii. Perform Bio-accumulation testing (ESI) in accordance with USACE requirements
 1. Disposal site reference sample \$ 2,000
 2. Testing cost for 2 Samples \$ 77,900
 3. Testing cost for 3 Samples \$ 93,800
 - iii. **BCE** to provide coordination throughout this sampling and testing phase and provide summary of findings with recommendations.
 1. Budget for engineering services billed time & expenses \$ 3,500

Task 3 - Regulatory Approvals

- **BCE** will prepare and submit permit applications for the potential dredging and disposal scenarios as described above.
- It is anticipated that regulatory applications will be required for the following:
 - Preparation of project narrative for regulatory applications
 - Preparation of Essential Fish Habitat study
 - Preparation of drawings in required formats for submission to agencies
 - Filing of Environmental Notification Form including:
 - Onsite meeting with MEPA / Environmental Agencies (1 mtg.)
 - Request for Waiver of mandatory EIR
 - Filing of Wellfleet Conservation Commission Notice of Intent including:
 - Abutter notifications
 - Presentation of project to Commission (2 mtgs.)
 - Advertising as required
 - Recording of Order of Conditions
 - Preparation and filing for 401 Water Quality Certificate
 - Advertising (joint with Chapter 91 Permit)
 - Preparation and filing for MA DEP Chapter 91 Dredge Permit including:
 - Abutter notifications / Town Board Approvals
 - Advertising (joint with WQC)
 - Recording of permit

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- Preparation and filing for U.S. Army Corps of Engineers Sec. 404 Permit
- Preparation and filing for MA Coastal Zone Management Consistency
- Providing regulatory coordination through regulatory review and approval process
- Recording of approvals as required

SUMMARY OF FEES

Task 1 - Kick off Meeting and Pre-Application Meeting **\$3,860**

Task 2 - Material Sampling and Testing

Stage 1 - Sampling and Testing

Sampling - TG&B - 14 samples	\$ 4,260
Physical Testing - ESI	\$ 1,750
Bulk Chemistry Testing-ESI - 7 samples	\$ 6,200
<i>BCE</i> coordination (time & expense)	\$ 2,500 Budget

Total \$ 14,710

Stage 2 - Sampling and Testing- *Upon direct approval by Owner*

Sampling - TG&B - 14 samples	\$ 5,000
Physical Testing - ESI	\$ 1,750
Disposal Site Reference Sample-ESI	\$ 2,000
Bio-Assay Testing-ESI - 3 samples	\$ 6,825
(if 2 samples reduce to \$4,800)	
<i>BCE</i> coordination (time & expense)	\$ 2,500 Budget

Total \$ 18,075

Stage 3 - Sampling and Testing - *Upon direct approval by Owner*

Sampling - TG&B - 14 samples	\$ 5,000
Disposal Site Reference Sample-ESI	\$ 2,000
Bio-Accumulation Testing-ESI - 3 samples	\$ 93,800
(if 2 samples reduce to \$77,900)	
<i>BCE</i> coordination (time & expense)	\$ 3,500 Budget

Total \$104,300

Task 3 - Regulatory Approvals **\$21,375**

Budget for regulatory coordination **\$ 5,000**

Budget for advertising, abutter notices, etc. **\$ 5,000**

OVERALL BUDGET **\$172,320**

Bourne Consulting Engineering

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Additional Services

Meetings

Meetings are included within the project where they are specifically listed in the above services. Additional meetings attendance as requested by the client will be billed at the following rate which includes all travel expenses.

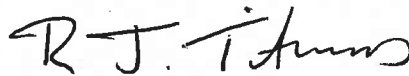
Principal/Project Manager \$650/mtg

Thank you for the opportunity to submit this proposal. We hope the above is satisfactory for your needs. If you have any questions or would like to discuss the project or proposal further, please do not hesitate to contact this office.

If you would like to proceed with the proposed project in phases, we would recommend approval for Task 1 and for Stage 1 of the Sampling and Testing at this point in time.

Very truly yours,

BOURNE CONSULTING ENGINEERING, PC



Russell Titmuss, PE
Project Manager

Enclosure



LABOR AND EXPENSE RATES

EFFECTIVE JUNE 2014

POSITION	RATE
PRINCIPAL	\$190.00
PROJECT MANAGER	\$120.00 - \$170.00
Sr. WATERFRONT ENG.	\$100.00 - \$130.00
COASTAL/WTRFRNT ENG. III	\$ 90.00 - \$ 110.00
COASTAL/WTRFRNT ENG. I/II	\$ 70.00 - \$ 90.00
REGULATORY SPECIALIST	\$ 80.00 - \$ 90.00
TECHNICIAN/CADD I & II	\$ 45.00-\$65.00
TECHNICAL ASSISTANT	\$ 66.00

EXPENSES	RATE
Reproduction costs - drawings:	
Plotting - Vellum	\$ 10.00/sheet
Plotting - Mylar	\$ 20.00/sheet
Printing 24 x 36	\$ 2.50/sheet
Mileage	\$ 0.50/mile
14 ft Jon Boat	\$ 25.00/day
18 ft Boat (w/motor)	\$250.00/day
Fathometer	\$200.00/day
Sub-Foot GPS	\$250.00/day
Survey Equipment –Total Station/Level	\$ 35.00/day
Ultrasonic Thickness Measurement	\$150.00/day
Weld Testing - Magnetic Particle	\$ 50.00/day
Coating Thickness Testing Equipment	\$ 50.00/day
Coring Equipment - Compressor w/ accessories	\$100.00/day
Soil Sample Augers	\$100.00/day
Field Expendables (rulers, lights, batteries, etc.)	\$ 25.00/day
Diving – Dive Team Scuba Equipment	\$450.00/day

All Other Expenses at Cost

Rates are subject to review and change on an annual basis with an increase limit of 5% per year.

MEMORANDUM FOR: John Sargent, Project Manager, CENAE-R-PEB

SUBJECT: Sampling and Analysis Plan for the Town of Wellfleet, Wellfleet Harbor, Wellfleet, MA, Application Number NAE-2005-1059.

1. In response to your request of 5 March 2014, I have developed a sampling plan for the above project. The applicant is proposing to dredge two areas in Wellfleet Harbor north and south of the federal channel and anchorage area. The first area is composed of the north and south channels, North anchorage and access channel. The area would be approximately 15.48 acres and would be dredged to a depth of -6' MLW, producing a volume of approximately 118,300 cubic yards. The second area encompasses the South anchorage adjacent to the federal navigation project boundary. The area would be approximately 21.71 acres and would be dredged to a depth of -6' MLW, producing a volume of approximately 248,000 cubic yards. A total of 366,300 cubic yards would be produced. The applicant proposes to mechanically dredge this material and dispose of it at the Cape Cod Bay Disposal Site (CCBDS). This area was last dredged at least in part nine years ago.

2. Please note that the "Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters" (RIM) is now final and took effect on May 6, 2004. The RIM, as well as requirements for electronic submission of data, may be downloaded from the website <http://www.nae.usace.army.mil/reg/rim.htm>.

Additionally, the deadline for all laboratories to submit Laboratory Quality Assurance Plans (LQAPs) was **May 6, 2006. After this deadline, all data reports from labs that DO NOT have an approved LQAP on record at the Army Corps of Engineers WILL NOT be accepted.** Applicants and their agents should verify that their laboratory and any sub-contracting laboratory has, or is working towards, a valid LQAP before retaining their services.

3. SPILLS & OUTFALLS: There is a boat ramp and a fuel dock on the main pier as well as a drainage system to control runoff from impervious surfaces. No history of spills was reported by the contractor after examination of the area.

4. Fourteen cores (W-1 to W-14; nine from area 1 and five from area 2) should be taken from the area to be dredged according to the attached plan. Core samples should be taken to the proposed dredge depth. The cores should be inspected in the field for stratification. If the cores show significant stratification, in the opinion of the sampling crew, subsamples should be made of each layer. All sediments being held for testing should be stored in

accordance with the requirements of Table 8-2 in Evaluation of Dredged Material Proposed for Ocean Disposal, Testing Manual, 1991.

5. Please provide coordinates for each core location in latitude and longitude, NAD 83 decimal minutes. Required horizontal accuracy of each sample location is 3 meters or less. This accuracy can be achieved with a WAAS-enabled standard boat-mounted or hand-held GPS unit. The accuracy at each sample location shall be reported along with the coordinates. Accuracy can be improved by collecting data at a sampling location for a longer period of time.
6. Each core or core layer should be individually analyzed for sediment grain size and the results reported to me before any compositing is performed. I will review the data and determine if compositing is appropriate.
7. Bulk sediment chemistry analyses should be done on each composite sample according to the "Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters" (April 2004). The test parameters should include all of the items on the attached sheet. These parameters are extracted from Tables 1, 2, and 3 of the "Regional Implementation Manual for the Evaluation of Dredged Material Proposed for Disposal in New England Waters". The reporting limits should be those indicated on the attached sheet. **Please note that the 2004 RIM introduced new reporting limits, which for many analytes are lower than those previously accepted.** The listed analytical methods are recommended but can be replaced by other methods that will give the required reporting limits. The Total Organic Carbon analysis (TOC) should be done in duplicate on each composited sample and a TOC Standard Reference Material (SRM) should be run with the sample batch.
8. The 2004 RIM also introduced new quality control requirements. Quality Control Summary Tables must be completed and included with each data submission. These tables are found in Appendix II of the RIM and are also available on the RIM website <http://www.nae.usace.army.mil/reg/rim.htm>.
9. Beginning October 1, 2004, all sediment data was required to be submitted electronically in the electronic data deliverable (EDD) format available on the RIM website. EDD's may be e-mailed or mailed on CD. Hard copy data submission is still required, along with the electronic data submission. Electronic files in a printer-friendly, easy-to-read format (e.g., PDF, MS Word) may be substituted for hard copy submission.
10. Please note the following modification to the 2004 RIM: Any analytes not detected shall be reported as the reporting limit and qualified with a U. Do not

CENAE-R-PT

SUBJECT: Sampling and Analysis Plan for the Town of Wellfleet, Wellfleet Harbor, Wellfleet, MA, Application Number NAE-2005-1059

report non-detects as the method detection limit (MDL).

11. Copies of this plan were sent to the MADEP, USEPA and NOAA. The EPA concurred with the plan. The other agencies did not respond within the 10 business day review period and their concurrence is assumed.

12. If you, the applicant or the testing laboratory have any questions, feel free to contact me at 978-318-8336.

CHARLES N. FARRIS
Project Manager
Marine Analysis Section

CENAE-R-PT

SUBJECT: Sampling and Analysis Plan for the Town of Wellfleet, Wellfleet Harbor, Wellfleet, MA, Application Number NAE-2005-1059

BULK SEDIMENT TESTING PARAMETERS

Parameter	Analytical Method	Reporting Limit (ppm)
Metals		
Arsenic	6010B, 6020, 7060, 7061	0.4
Cadmium	6010B, 6020, 7130, 7131	0.07
Chromium	6010B, 6020, 7190, 7191	0.5
Copper	6010B, 6020, 7210	0.5
Lead	6010B, 6020, 7420, 7421	0.5
Mercury	7471	0.02
Nickel	6010B, 6020, 7520	0.5
Zinc	6010B, 6020, 7950	1.0
PCBs (total by NOAA summation of congeners)		
See next page	8082A	0.001
Pesticides		
	NOAA (1993), 8081B	0.001
Aldrin	Heptachlor epoxide	0.025
cis- & trans-Chlordane	Hexachlorobenzene	
4,4'-DDT, DDD, DDE	gamma-BHC (Lindane)	
Dieldrin	Methoxychlor	
α & β Endosulfan	cis- & trans-Nonachlor	
Endrin	Oxychlordane	
Heptachlor	Toxaphene	
Polycyclic Aromatic Hydrocarbons (PAH's)		
	8270C-SIM	0.01
Acenaphthene	Chrysene	
Acenaphthylene	Dibenzo(a,h)anthracene	
Anthracene	Fluoranthene	
Benzo(a)anthracene	Fluorene	
Benzo(a)pyrene	Indeno(1, 2, 3-cd)pyrene	
Benzo(b)fluoranthene	Naphthalene	
Benzo(k)fluoranthene	Phenanthrene	
Benzo(g, h, i)perylene	Pyrene	
Total Organic Carbon	Plumb (1981), APHA (1995)	0.1%
Percent Moisture	Plumb (1981), EPA (1992), PSEP (1986)	1.0%
Grain Size	Wet Sieve (#4, 10, 40, 200)	

5/5/04

PCB CONGENERS

Analytical Method: NOAA (1993), 8082A

Reporting Limit: 1 ppb

Congeners:

8*	2,4' diCB
18*	2,2',5 triCB
28*	2,4,4' triCB
44*	2,2',3,5' tetraCB
49	2,2',4',5 tetraCB
52*	2,2',5,5' tetraCB
66*	2,3',4,4' tetraCB
87	2,2',3,4,5' pentaCB
101*	2,2',4,5,5' pentaCB
105*	2,3,3',4,4' pentaCB
118*	2,3',4,4',5 pentaCB
128*	2,3,3',4,4' hexaCB
138*	2,2',3,4,4',5' hexaCB
153*	2,2',4,4',5,5' hexaCB
170*	2,2',3,3',4,4',5 heptaCB
180*	2,2',3,4,4',5,5' heptaCB
183	2,2',3,4,4',5',6 heptaCB
184	2,2',3,4,4',6,6' heptaCB
187*	2,2',3,4',5,5',6 heptaCB
195*	2,2',3,3',4,4',5,6 octaCB
206*	2,2',3,3',4,4',5,5',6 nonaCB
209*	2,2',3,3',4,4',5,5',6,6' decaCB

* denotes a congener to be used in estimating Total PCB. To calculate Total PCB, sum the concentrations of all eighteen congeners marked with a "*" and multiply by 2.

The specified methods are recommendations only. Other acceptable methodologies capable of meeting the Reporting Limits can be used. Sample preparation methodologies (e.g. extraction and cleanup) and sample size may need to be modified to achieve the required Reporting Limits.

5/5/04



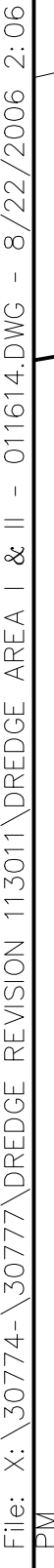
WELLFLEET HARBOR LAYOUT

WELLFLEET HARBOR DREDGING
TOWN OF WELLFLEET
WELLFLEET, MA
OCTOBER 2011

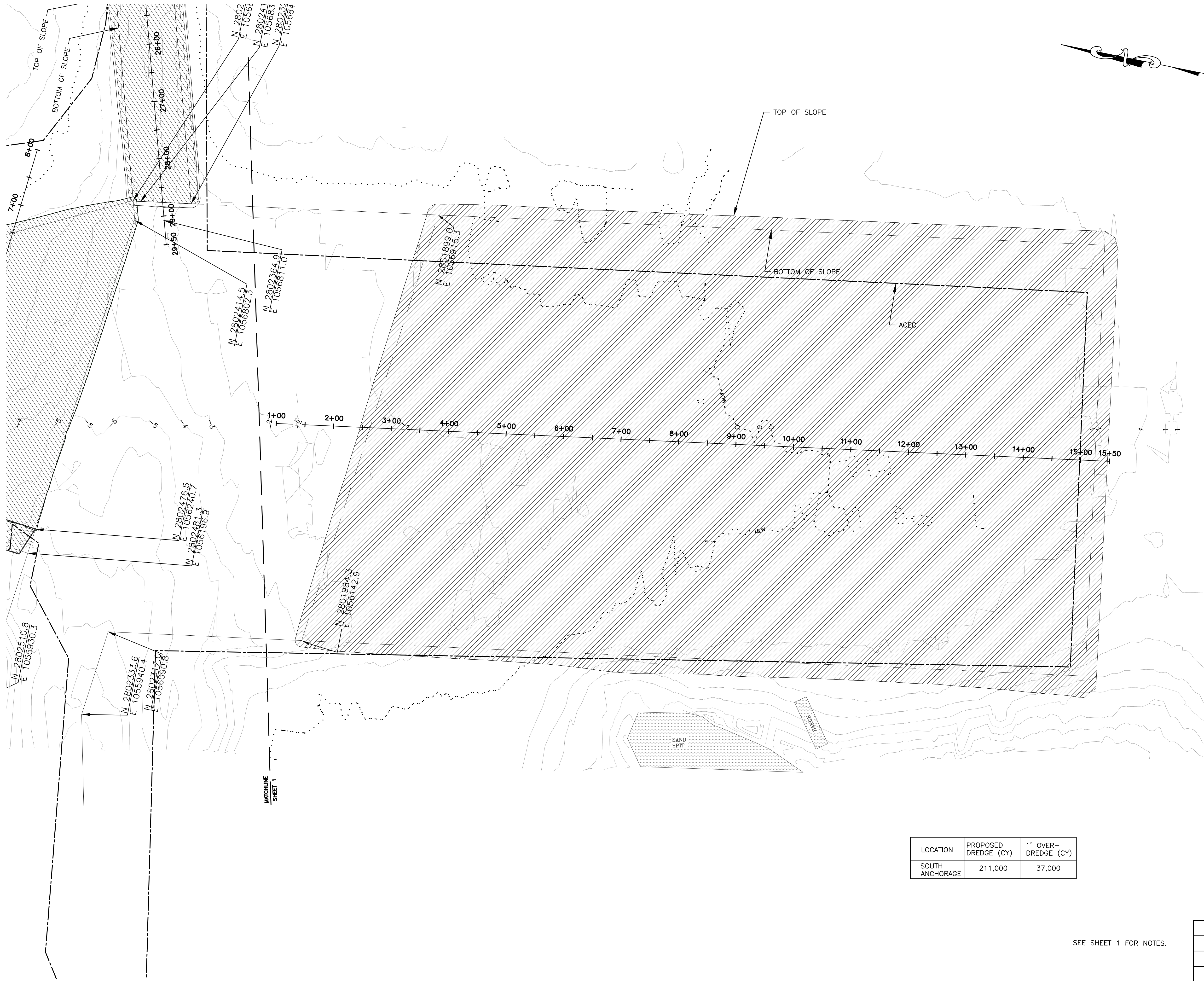
0 500
SCALE: 1" = 500'

BCE **Bourne Consulting Engineering**
3 Bent Street
Franklin, MA 02038
PH. (508) 533-0000 FAX. (508) 533-0000

EXHIBIT 1

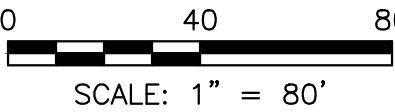


File: X:\30774\30777\DREDGE REVISION 113011\DREDGE AREA I & II - 011614.DWG -- 8/22/2006 2:06 PM




LOCATION	PROPOSED DREDGE (CY)	1' OVER-DREDGE (CY)
SOUTH ANCHORAGE	211,000	37,000

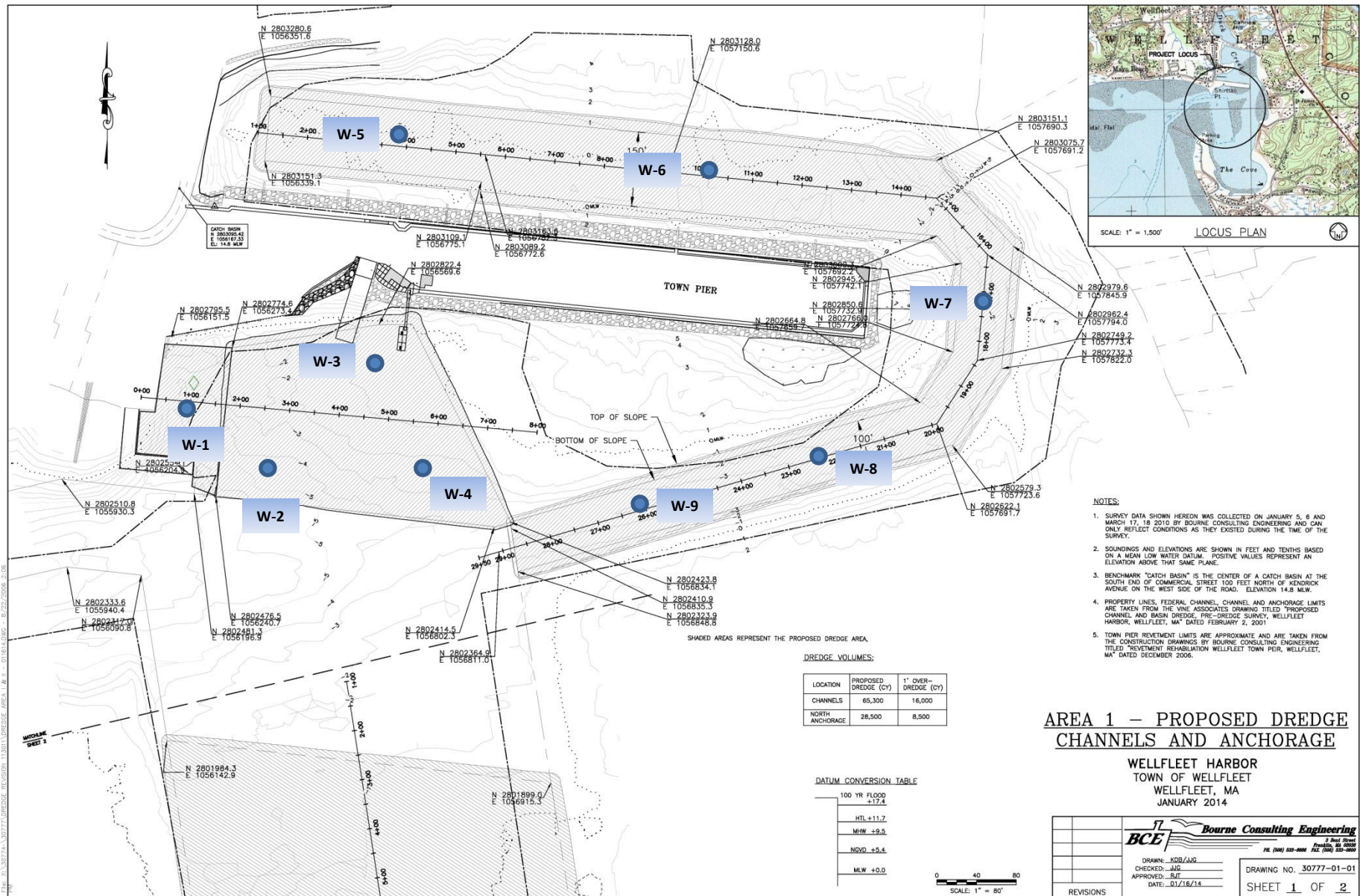
SEE SHEET 1 FOR NOTES.



**AREA II – PROPOSED
DREDGE
SOUTH MOORING BASIN**

**WELLFLEET HARBOR
TOWN OF WELLFLEET
WELLFLEET, MA
JANUARY 2014**

REVISIONS		 Bourne Consulting Engineering 3 Bent Street Franklin, MA 01903 PH. (508) 533-0886 FAX. (508) 533-0800	DRAWING NO. 30777-01-02
		DRAWN: <u>KDB/JJG</u>	SHEET <u>2</u> OF <u>2</u>
		CHECKED: <u>JJG</u>	
		APPROVED: <u>RJT</u>	
		DATE: <u>01/16/14</u>	



- NOTES:
1. SURVEY DATA SHOWN HEREON WAS COLLECTED ON JANUARY 5, 6 AND MARCH 17, 18 2010 BY BOURNE CONSULTING ENGINEERING AND CAN ONLY REFLECT CONDITIONS AS THEY EXISTED DURING THE TIME OF THE SURVEY.
 2. SOUNDINGS AND ELEVATIONS ARE SHOWN IN FEET AND TENTHS BASED ON A MEAN LOW WATER DATUM. POSITIVE VALUES REPRESENT AN ELEVATION ABOVE THAT SAME PLANE.
 3. BENCHMARK "CATCH BASIN" IS THE CENTER OF A CATCH BASIN AT THE SOUTH END OF COMMERCIAL STREET 100 FEET NORTH OF KENDRICK AVENUE ON THE WEST SIDE OF THE ROAD. ELEVATION 14.8 MLW.
 4. PROPERTY LINES, FEDERAL CHANNEL, CHANNEL AND ANCHORAGE LIMITS ARE TAKEN FROM THE VINE ASSOCIATES DRAWING TITLED "PROPOSED CHANNEL AND BASIN DREDGE, PRE-DREDGE SURVEY, WELFLEET HARBOR, WELFLEET, MA" DATED FEBRUARY 2, 2001
 5. TOWN PIER REVENEMENT LIMITS ARE APPROXIMATE AND ARE TAKEN FROM THE CONSTRUCTION DRAWINGS BY BOURNE CONSULTING ENGINEERING TITLED "REVENEMENT REHABILITATION WELFLEET TOWN PIER, WELFLEET, MA" DATED DECEMBER 2006.

DREDGE VOLUMES:

LOCATION	PROPOSED DREDGE (CY)	1" OVER-DREDGE (CY)
CHANNELS	65,300	16,000
NORTH ANCHORAGE	28,500	8,500

DATUM CONVERSION TABLE

100 YR FLOOD	+17.4
HTL +11.7	
MLW +9.5	
MSD +5.4	
MLW +0.0	

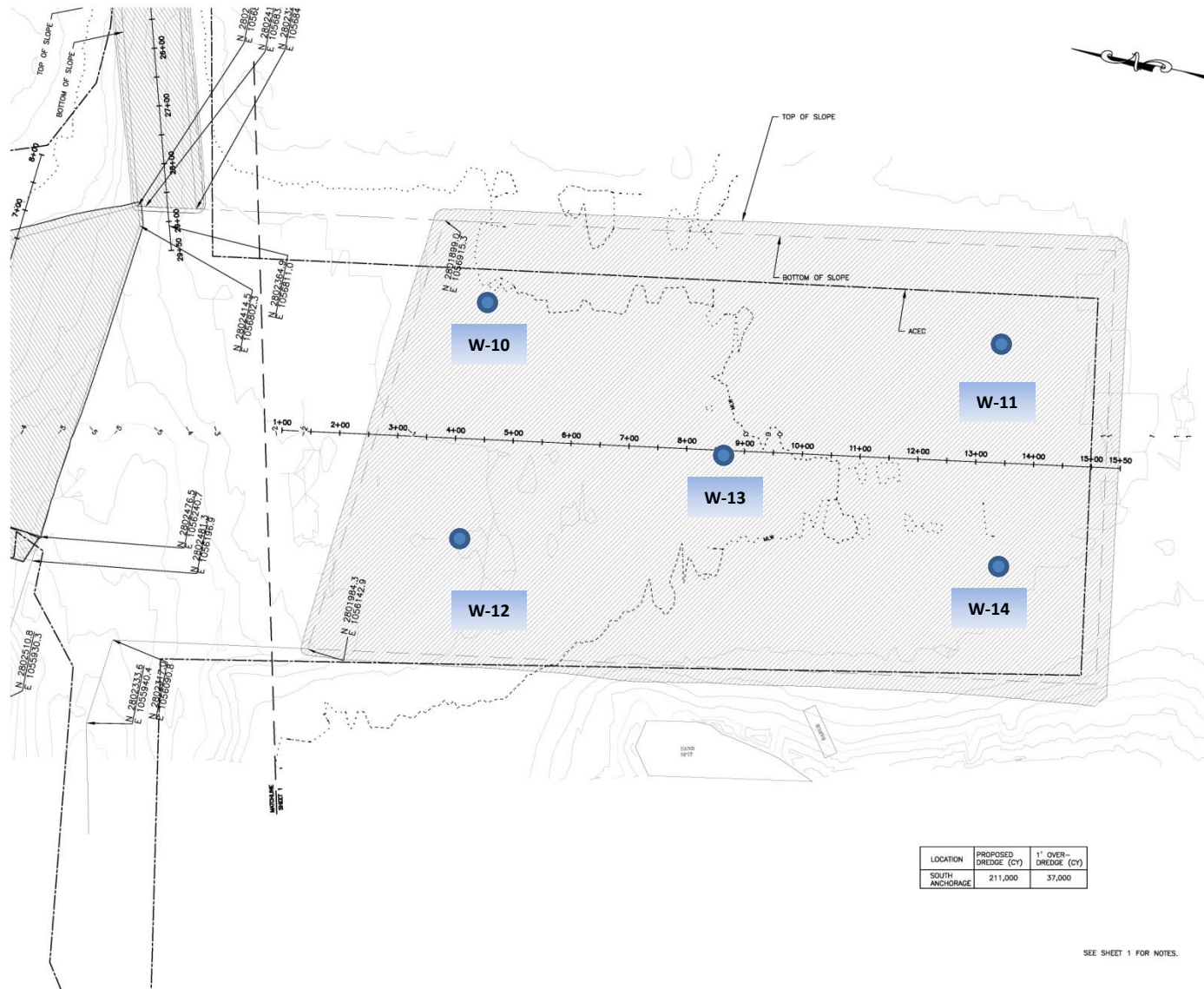
0 40 80
SCALE: 1" = 80'

AREA 1 – PROPOSED DREDGE CHANNELS AND ANCHORAGE

WELFLEET HARBOR
TOWN OF WELFLEET
WELFLEET, MA
JANUARY 2014


REVISIONS		Bourne Consulting Engineering P.O. BOX 333-3000 FAX: (508) 555-0000 Providence, MA 02903
	DRAWN: KDB/JAG CHECKED: JAG APPROVED: BUT DATE: 01/16/14	
	DRAWING NO. 30777-01-01	
	SHEET 1 OF 2	

FILE: A:\30774\30777-DREDGE AREA\30777-DREDGE AREA.dwg PLOT: 01/16/2014 2:08



LOCATION	PROPOSED DREDGE (CY)	1' OVER— DREDGE (CY)
SOUTH ANCHORAGE	211,000	37,000

AREA II – PROPOSED
DREDGE
SOUTH MOORING BASIN

<table border="1"> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> <tr><td> </td><td> </td></tr> </table>									 Bourne Consulting Engineering <small>3 West Street Franklin, MA 01902 TEL (508) 533-0000</small>	
DRAWN: <u>KDB/JVG</u> CHECKED: <u>JVG</u> APPROVED: <u>JMT</u> DATE: <u>07/16/14</u>										
DRAWING NO. <u>30777-01-02</u> SHEET <u>2</u> OF <u>2</u>										
REVISIONS										